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     (FILE 'HOME' ENTERED AT 16:37:16 ON 01 AUG 2002)

     INDEX 'ADISALERTS, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO,
CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 16:37:25 ON
     01 AUG 2002

     FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, BIOTECHNO, SCISEARCH, USPATFULL'
     ENTERED AT 16:38:02 ON 01 AUG 2002
L1         13956 S DEMIDASE OR AMIDASE
L2           677 S L1 AND FLAVOBACTERIUM OR CHRYSEOBACTERIUM
L3           474 S L2 AND (ISOLAT? OR PURIF?)
L4           211 S L1 (P) L2
L5           123 DUP REM L4 (88 DUPLICATES REMOVED)
L6            86 S L5 AND (ISOLAT? OR PURIF?)
L7            63 S L6 AND PY<1999
L8             0 S L7 AND DEAMIDASE
L9           727 S DEAMIDASE
L10           12 S L9 AND (FLAVOBACTER? OR CHRYSEOBACTER?)
L11            8 DUP REM L10 (4 DUPLICATES REMOVED)
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=> d l11 ibib ab 1-8

L11 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:432945 CAPLUS
DOCUMENT NUMBER: 135:42762
TITLE: Protein-deamidating enzyme, microorganism producing the same, gene encoding the same, production process therefor, and use thereof
INVENTOR(S): Yamaguchi, Shotaro
PATENT ASSIGNEE(S): Amano Enzyme Inc., Japan
SOURCE: Eur. Pat. Appl., 43 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1106696	A1	20010613	EP 2000-310768	20001204
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001218590	A2	20010814	JP 2000-368983	20001204

PRIORITY APPLN. INFO.: JP 1999-345044 A 19991203

AB The invention involves an enzyme which removes amido groups from proteins and releases side-chain carboxyl groups and ammonia. The enzyme acts directly on amido groups without cleaving peptide bonds and without crosslinking a protein substrate and is therefore called protein deamidating enzyme. The invention also claims polypeptide and nucleotide sequences for the enzyme. In addn., this invention claims methods for the prodn. of an enzyme, which comprise culturing in a medium a strain that belongs to a bacterium classified into Cytophagales or Actinomycetes, or a new bacterium **Chryseobacterium** sp. No. 9670 belonging to the genus **Chryseobacterium**, and has the ability to produce an enzyme having property to deamidate amido groups in protein, thereby effecting prodn. of the enzyme, and subsequently collecting the enzyme from the culture mixt. A method for the modification of an enzyme using the native or recombinant protein deamidating enzyme and a method and compn. for the modification of a protein substrate using the native or recombinant protein deamidating enzyme are also claimed. Methods for use of a recombinant protein deamidating enzyme involve using a gene which encodes the enzyme, a recombinant vector which contains the gene, a transformant transformed with the vector and a method in which the transformant is cultured in a medium to effect prodn. of the protein-deamidating enzyme and then the protein-deamidating enzyme is collected. Uses of the protein deamidating enzyme include for improvement of proteins in food and alterations in protein and food properties such as soly., foamability, and emulsifying ability. A purified protein deamidating enzyme was obtained from a new microorganism, **Chryseobacterium** strain 9670, and its activity measured by release of ammonia from Cbz-Gln-Gly and casein assay substrates. Protease and transglutaminase activities of the purified protein deamidating enzyme were not detected. Several protein substrates, including wheat gluten, egg white protein, and soybean protein, were

treated with the **Chryseobacterium** deamidating enzyme and pH-soly. curves of the substrates were detd.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:84446 CAPLUS
DOCUMENT NUMBER: 132:119242
TITLE: Protein-deamidating enzyme and its **Chryseobacterium** gleum gene and uses in the food industry
INVENTOR(S): Yamaguchi, Shotaro; Matsuura, Akira
PATENT ASSIGNEE(S): Amano Pharmaceutical Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 57 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 976829	A2	20000202	EP 1999-304367	19990604
EP 976829	A3	20000216		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6251651	B1	20010626	US 1999-324910	19990603
JP 2000050887	A2	20000222	JP 1999-158703	19990604

PRIORITY APPLN. INFO.: JP 1998-173940 A 19980604

AB An enzyme is provided which has an activity to release side chain carboxyl groups and ammonia from a protein by acting upon side chain amido groups in the protein. This invention relates to a method for the prodn. of an enzyme, which comprises culturing in a medium a strain that belongs to a bacterium classified into Cytophagales or Actinomycetes has the ability to produce an enzyme having a property to deamidate amido groups in protein, thereby effecting prodn. of said enzyme, and subsequently collecting said enzyme from the culture mixt. The gene encoding the enzyme was isolated and sequenced from **Chryseobacterium** gleum, and shown to encode a 319-residue protein including a 134-amino acid prepro moiety. The protein-deamidating enzyme can be used as a reagent for use in the functional modification of protein, i.e., in protein engineering. Deamidation of plant and animal food proteins results in improved functional properties (soly. and dispersibility) for the prepn. of numerous food products. The protein-deamidating enzyme can also be used as a reaction controlling agent for transglutaminase.

L11 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:552802 CAPLUS
DOCUMENT NUMBER: 133:277885
TITLE: A novel protein-deamidating enzyme from **Chryseobacterium** proteolyticum sp. nov., a newly isolated bacterium from soil
AUTHOR(S): Yamaguchi, Shotaro; Yokoe, Masaaki
CORPORATE SOURCE: Gifu R & D Center, Amano Pharmaceutical Co., Ltd., Gifu, 509-0108, Japan
SOURCE: Applied and Environmental Microbiology (2000), 66(8), 3337-3343
CODEN: AEMIDF; ISSN: 0099-2240
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A novel protein-deamidating enzyme, which has potential for industrial applications, was purified from the culture supernatant of

Chryseobacterium proteolyticum strain 9670T isolated from rice field soil in Tsu[redacted]ba, Japan. The deamidating act[redacted]ities on carboxybenzoxy (C[redacted])-Gln-Gly and caseins and prote[redacted]e activity were produced synchronously by the isolate. Both deamidating activities were eluted as identical peaks sepd. from several proteases by phenyl-Sepharose chromatog. of the culture supernatant. The enzyme catalyzed the deamidation of native caseins with no protease and transglutaminase activities. Phenotypic characterization and DNA analyses of the isolate were performed to det. its taxonomy. Physiol. and biochem. characteristics, 16S rRNA gene sequence anal., and DNA-DNA relatedness data indicated that the isolate should be placed as a new species belonging to the genus **Chryseobacterium**. The isolate showed no growth on MacConkey agar and produced acid from sucrose. The levels of DNA-DNA relatedness between the isolate and other related strains were less than 17%. The name **Chryseobacterium** proteolyticum is proposed for the new species; strain 9670 is the type strain (=FERM P-17664).

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 4 OF 8 MEDLINE
ACCESSION NUMBER: 84195167 MEDLINE
DOCUMENT NUMBER: 84195167 PubMed ID: 6371900
TITLE: Proline specific endopeptidase.
AUTHOR: Yoshimoto T; Tsuru D
SOURCE: TANPAKUSHITSU KAKUSAN KOSO. PROTEIN, NUCLEIC ACID, ENZYME, (1984 Feb) 29 (2) 127-33. Ref: 38
Journal code: 0413762. ISSN: 0039-9450.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: Japanese
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198406
ENTRY DATE: Entered STN: 19900319
Last Updated on STN: 20000303
Entered Medline: 19840619

L11 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
ACCESSION NUMBER: 1980:464192 CAPLUS
DOCUMENT NUMBER: 93:64192
TITLE: Nicotinamide **deamidase** from **Flavobacterium** peregrinum
AUTHOR(S): Tanigawa, Yoshinori; Shimoyama, Makoto; Ueda, Iwao
CORPORATE SOURCE: Dep. Biochem., Shimane Med. Univ., Shimane, 693, Japan
SOURCE: Methods Enzymol. (1980), 66(Vitam. Coenzymes, Pt. E), 132-6
CODEN: MENZAU; ISSN: 0076-6879
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review with 9 refs.

L11 ANSWER 6 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
ACCESSION NUMBER: 1973:162747 BIOSIS
DOCUMENT NUMBER: BA55:62740
TITLE: PURIFICATION AND PROPERTIES OF NICOTINAMIDE **DEAMIDASE** FROM **FLAVOBACTERIUM**-PEREGRINUM.
AUTHOR(S): TANIGAWA Y; SHIMOYAMA M; DOHI K; UEDA I
SOURCE: J BIOL CHEM, (1972 (RECD 1973)) 247 (24), 8036-8042.
CODEN: JBCHA3. ISSN: 0021-9258.
FILE SEGMENT: BA; OLD

LANGUAGE: Unavailable

L11 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 3
ACCESSION NUMBER: 1973:68603 CAPLUS
DOCUMENT NUMBER: 78:68603
TITLE: Nicotinamide **deamidase** of microorganisms isolated from rat stomach
AUTHOR(S): Tanigawa, Yoshinori
CORPORATE SOURCE: Dep. Med. Chem., Osaka Med. Coll., Takatsuki, Japan
SOURCE: Bull. Osaka Med. Sch. (1972), 18(1), 30-47
CODEN: BUOSA5
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Almost all stomach nicotinamide **deamidase** (I) activity was localized in the pars preventricularis of normal rats, but no activity was found there in the germ-free rats. I activities were found, in decreasing order of potency, in **Flavobacterium** peregrinum, Escherichia coli, Streptococcus faecalis, and Lactobacillus acidophilus. I from F. peregrinum was purified in the presence of Mn++, about 70-fold. The Km value for nicotinamide was 2 .times. 10-7M and the pH optimum was 7.0. If purification was carried out in the absence of Mn++, the enzyme activity decreased, with 1% recovery at the final step of purification. The purified I was inactivated through dialysis against a large vol. of 0.01M malate buffer, pH 7.0, in the absence of Mn++ and its activity was not recovered by the subsequent addn. of Mn++ or Mn++ plus cysteine. If the dialysis was carried out in the presence of Mn++ or Hg++, the activity remained intact. With Hg++ this effect was only observed with cysteine in the reaction mixt. The half-max. level of the Mn++ and Hg++ effects for enzyme stabilization during dialysis were 4.5 .times. 10-5M and 1.25 .times. 10-6M, resp. EDTA led to a decrease in enzyme activity but this decrease could be completely restored by Mn++.

L11 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1971:537838 CAPLUS
DOCUMENT NUMBER: 75:137838
TITLE: Nicotinamide deamidation by microorganisms in rat stomach
AUTHOR(S): Shimoyama, Makoto; Tanigawa, Yoshiniri; Ito, Toichi; Murashima, Ryuzo; Ueda, Iwao; Tomoda, Tsunesuke
CORPORATE SOURCE: Dep. Med. Chem., Osaka Med. Coll., Takatsuki, Japan
SOURCE: J. Bacteriol. (1971), 108(1), 191-5
CODEN: JOBAAY
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The bacterial species in the pars preventricularis were identified as **Flavobacterium** peregrinum, Escherichia coli, Streptococcus faecalis, and Lactobacillus acidophilus, listed in order of decreasing **deamidase** activity. Nicotinamide-7-14C ingested into rat stomach was rapidly deamidated to nicotinic acid. These results contribute to the accumulated evidence that microorganisms present in the pars preventricularis of rat stomach are responsible for the deamidation of nicotinamide to nicotinic acid, a known precursor of mammalian pyridine nucleotides.